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The Center for Animal Health and Productivity

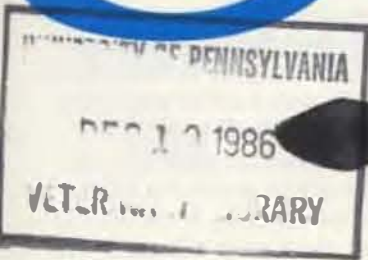
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The Center for Animal Health and Productivity

An outstanding characteristic in the history of the School of Veterinary Medicine has been its willingness and ability to gear its educational, service, and research programs to the changing needs of the veterinary profession.

For example, the Veterinary School pioneered the development of clinical specialties, now a vital part of modern veterinary practice. Likewise, in 1970 we initiated a unique core-elective curriculum to meet the diversified career goals of today's students. The most recent example of the School's concern with changing patterns in veterinary practice and agriculture is the creation of the Center for Animal Health and Productivity in 1986.

The intensification of agriculture, with larger numbers of animals being raised in smaller areas, opens up the greater possibility of disease spread and places greater emphasis on careful surveillance of production methods for greater efficiency. With these changes in animal agriculture, the role of the food-animal veterinarian is shifting from concern about the health of individual animals to problems of the herd and flock.

Despite the outstanding contributions of the veterinary profession in the United States in controlling such devastating livestock diseases as foot and mouth disease, bovine tuberculosis, brucellosis and hog cholera, losses from animal disease, and inefficient production still take staggering tolls. The 1983 Annual Report of the Animal Health Science Research Advisory Board (U.S.D.A.) estimated the average loss from food animal diseases at \$14-billion annually. When the cost of reproductive inefficiencies (\$14.8-billion) is added to this, it means that the food animal

industry in this country is operating at a 67 percent efficiency.

Recognizing the need to train veterinarians who will be experts in preventative medicine and herd and flock disease control, the Commonwealth of Pennsylvania in 1985 funded a training grant in Epidemiology and Health Economics at New Bolton Center. Dr. Colin Johnstone, a parasitologist, became director of this program, and last year the first group of four trainees began this exciting experience.

In 1986, the Veterinary School established the Center for Animal Health and Productivity, and the Commonwealth provided funds totaling \$541,000 for this program. A five-year plan for the Center has been developed, with various phases being introduced each year. These include clinical nutrition, reproduction, large animal medicine, mammalian pathology, poultry pathology, parasitology, epidemiology, health economics, and computer science.

The Center will have clear linkages with programs at other institutions, particularly from Penn State, and with the Pennsylvania Department of Agriculture. It will have three main functions: (1) graduate and residency training in animal health and productivity; (2) the development of a computer facility at New Bolton Center, and (3) field investigations and "on-farm" applied research programs.

Computerized diagnostic and herd health management information system.

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The Center for Animal Health and Productivity

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The original training program in epidemiology and food animal health economics will be expanded to include other disciplines such as medicine, nutrition, and reproduction. The association of the Veterinary School with the renowned Wharton School offers a unique opportunity for students wishing to develop a career in the rapidly emerging field of health economics. Several veterinary graduate students have already received MBA degrees from the Wharton School in Health Economics.

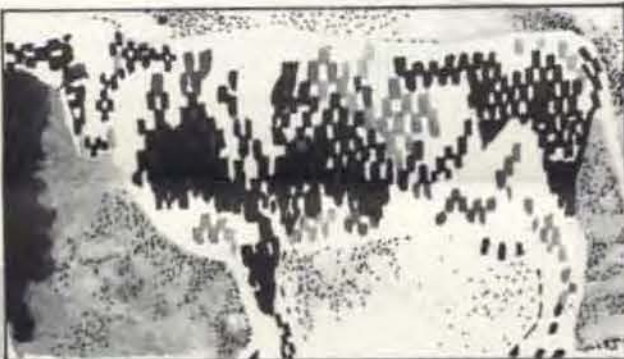
The foundation for a fully-staffed computer facility at New Bolton Center is already in place as a result of the work of the New Bolton Center Computer Task Force led by Dr. Charles Ramberg, professor of nutrition. This facility will functionally integrate the academic and service operations at New Bolton Center and will communicate with the extensive computer network now being developed within the University and with a statewide agricultural and diagnostic computer network. Eventually it will provide access to computerized diagnostic and herd health management information systems by veterinary practitioners and farmers. This system, when fully developed, will play a major role in the prevention, diagnosis, control, and treatment of livestock diseases in Pennsylvania. It will also significantly improve our teaching and research programs.

Members of the clinical facility at New Bolton Center receive numerous requests from large animal practitioners to provide field consultations on specific and serious herd or flock problems. Because of lack of funds and personnel it has not always been possible to fully meet these requests. Also, our experience indicates that diagnosis of a problem in an individual animal referred to the New Bolton Center hospital may suggest a peracute life threatening disease in the herd



with the potential for economic disasters on the farm, or it may uncover a smoldering problem that has been slowly eroding a herd's productivity. With the creation of the Center for Animal Health and Productivity, we will be in a much better position to provide an integrated approach to effectively dealing with such problems.

Field investigations will also be available to assess the current production status of a herd or flock and to establish productivity goals to maximize the potential productivity of an enterprise.

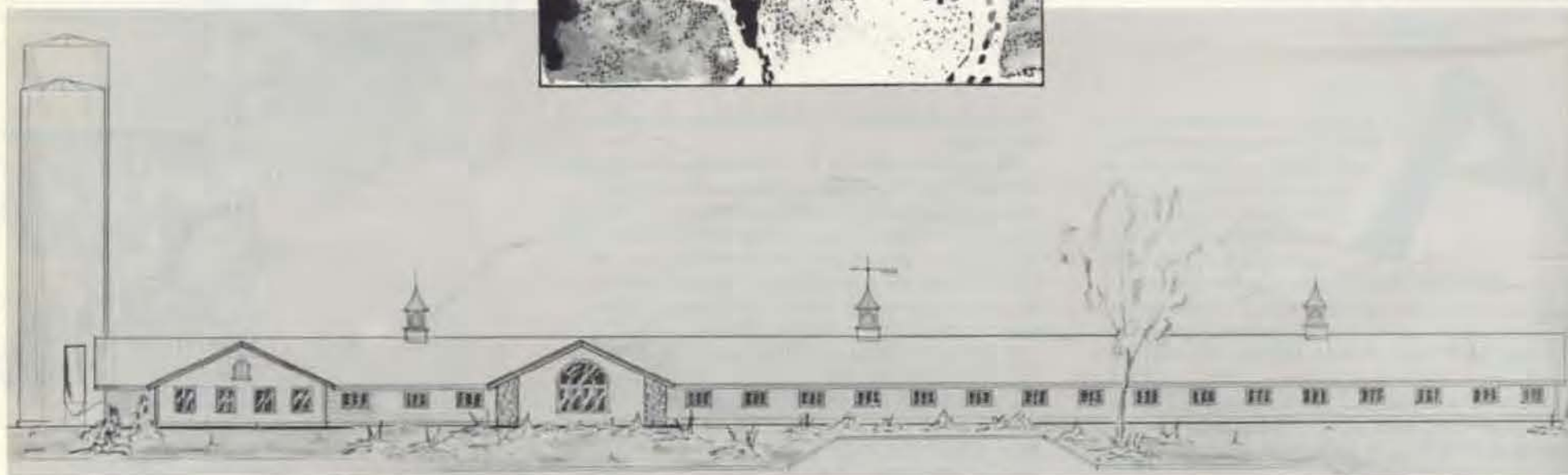


Also, at the field level, the Center will examine the applicability of new concepts derived from controlled research and undertake or supervise the effectiveness of drugs and biologicals on single animals or herds/flocks. An example of how research can be applied to a particular field problem is the study of the effects of quantity and type of protein on bovine fertility. The research, now underway at New Bolton Center by Dr. James Ferguson and Dr. William Chalupa, was initiated after investigation of a problem herd in which the conception rate had dropped nearly 50 percent over a five-month period. Investigation revealed that the only recent change in farming operation was a feeding change in which cattle were being fed a diet high in degradable protein and relatively low in energy. After reformulation to produce a balanced diet, the conception rate increased by 100 percent and milk production increased by 10 percent. In the case of drug treatment, the Center will assess the range of responses that can be expected from a particular treatment, at what costs, and what range of financial benefits can be expected as a result of these responses.

The liaison with Penn State and the Pennsylvania Department of Agriculture greatly expands the potential value of the program to the livestock and poultry industries of Pennsylvania. For example, Penn State is able to provide expertise in the fields of toxicology, milking management, genetics, soil and crop analysis, and species specialists, especially in beef and swine.

Founding members of the Center are: Dr. Colin Johnstone, associate professor of parasitology; Dr. Charles Ramberg, professor of nutrition; Dr. William Chalupa, professor of nutrition; Dr. Thomas Divers, associate professor of medicine; Dr. Daniel Cohen, visiting professor of epidemiology; Dr. Gary Smith, assistant professor of epidemiology and population biology; Dr. David Galligan, lecturer in economics; Dr. Will Marsh, lecturer in economics; Dr. Robert Eckroade, associate professor of poultry pathology; Dr. James Ferguson, lecturer in reproduction; Dr. Richard Bartholomew, associate professor of medicine.

—John E. Martin, V.M.D.



Seventeenth Annual Symposium

The Seventeenth Annual Symposium, Your Veterinarian and Your Dogs, will be held on January 30, 1987, at VHUP. The all-day event begins at 9:30 a.m.

During the morning session, Dr. Donald F. Patterson, Charlotte Newton Sheppard Professor of

Medicine, and Chief, Section of Medical Genetics, will discuss the Canine Genetic Disease Information System. Dr. Vicki Meyers-Wallen, assistant professor of reproduction, will speak about Canine Reproduction Problems.

In the afternoon Dr. Susan Donoghue, assistant professor of nutrition, will discuss Feeding Programs for Problem Dogs. The final presentation, Rabies Update, will be given by Dr. Lawrence T. Glickman,

associate professor of epidemiology, and Chief, Section of Epidemiology.

There will be question and answer periods after each lecture, and questions can be submitted prior to the symposium date. The cost for the program is \$35; this includes lunch and parking. Space is limited and reservations can be made by contacting Dr. M. Josephine Deubler, VHUP, 3850 Spruce Street, Philadelphia, PA 19104. Telephone: (215) 898-8862.

